

Ignacio Martínez Buffa. Multiple Intelligences Theory and Learning. A Pedagogical Proposal for EFL Classrooms

729



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I. Abstract

It has been shown the relationship of a certain type of cognition with a determined area of the human brain, that is, one particular brain section deals with a specific aptitude and form of processing information. Gardner (1983) formulated the Multiple Intelligence Theory in 1983 and stated the presence of eight different areas in the human brain, each area focusing on a different kind of intelligence. These eight intelligences are: i) the linguistic, ii) the logical-mathematical, iii) the spatial, iv) the bodily-kinaesthetic, v) the musical, vi) the intrapersonal, vii) the interpersonal viii) and the naturalist intelligences. The Multiple Intelligence Theory (henceforth MIT) has major implications on education. Indeed, MIT has changed the teaching methods and has provided better instruments. These intelligences are presented in everybody and students are not the exception to this rule. In fact, learners use their intelligences as means of processing new information. Some students will be more successful in processing new input depending in the form in which this is presented, that is, depending whether this coincides with their developed «intelligence» or «intelligences». Furthermore, with the application of MIT in the classroom students might become leaders of their learning process and teachers might change their profiles as educators by categorizing those common activities, which are usually presented in the classroom. Teachers are no longer seen as figures who transmit knowledge but as motivators of the students' potential (Antunes, 2000).

Keywords: cognition, Howard Gardner, intelligence, Multiple Intelligences Theory, education, learning process.

II. Introduction

The Multiple Intelligence Theory was born from Howard Gardner's opposition to the concept of Intelligence Quotient (henceforth IQ). This term refers to a score as product of a series of tests which evaluate the level of intelligence of a person. Gardner does not agree with the notion of the IQ because he believes it only takes into consideration math and linguistics skills leaving aside other aptitudes. As a results of his disagreement, Gardner (1983,93) proposed the existence of eighth different intelligences that reside in the human brain:

My review of earlier studies of intelligence and cognition has suggested the existence of a number of different intellectual strengths, or competences, each of which may have its own developmental history. The review of recent work in neurobiology has again suggested the presence of areas in the brain that correspond, at least roughly, to certain forms of cognition; and these same studies imply a neural organization that proves hospitable to the notion of different modes of information processing.

These intelligences are identified as the linguistic, the logical-mathematical, the spatial, the bodily-kinaesthetic, the musical, the intrapersonal, the interpersonal and the naturalist intelligences. In addition to this, it is important to highlight that each person has these eight intelligences and that each person can develop them till a certain level of competence (Armstrong, 1999).

What is more, the learning process is a field in which the MIT is also presented. Teachers categorize those common activities, which are usually presented in the classroom, having in mind the idea of Multiple Intelligences. Students possess the eight intelligences but some may be more keen on using numbers (logical-mathematical intelligence) than using words (linguistic intelligence). Because of this, it is relevant to work the eight intelligences so that students realise their full potential and do not work only with what is comfortable to them.

This research paper will focus on how MIT can help learners of EFL to develop their target language. It will be explained the theoretical framework and each of these intelligences in further detail. Moreover, this theory will be put into practice introducing one activity for each of the eight intelligences in order to learn the meaning of Thanksgiving and its vocabulary (as if it were a EFL classroom).

III. Objectives

This research presents different aims which will be tried to be reached throughout the whole paper. The first one is to give a clear and brief introduction to the Multiple Intelligences Theory through an explanation of its theoretical framework and the eight intelligences. The second aim is to present MIT as a possible pedagogical approach that can be implemented in EFL classrooms. This is done through the creation and organisation of eight different classroom activities based on the American holiday «Thanksgiving». The last of the objectives is the explanation of the advantages of introducing such theory and the different activities in an EFL context.

IV. Method and Materials

As this research is a theoretical research, it does not follow a structured and fixed method. However, there are a few steps that can be mentioned when organising this writing. First of all comes the gathering of different materials from different sources such as books dealing with the topic, research articles from several journals and webpages. After this comes the selection of the appropriate material and reliable sources in order to conduct a proper description of MIT. Finally, the pedagogical proposal included in this research derives from the searching and creation of different activities which were adapted to meet the requirements of this research.

V. Results

732

This section of the present paper contains the results of the analysis of both ELT textbooks, including the analysis of the different units and the transcripts selected.

An Approach to the MIT theoretical context

1. Theoretical Framework.

The existence of the eight intelligences is based on a series of tests that clarify why these are called «intelligences» and not simply «aptitudes» or «abilities». It is clear that the logical-mathematical is an intelligence type but people started to wonder why not consider, for instance musical intelligence as an aptitude. Therefore, Gardner (1983: 62-66) explains a series of «signs» that need to be considered at the moment of classifying an intelligence type:

- Potential isolation by brain damage: Gardner worked with people who had specific areas of the brain affected by a disease or accident. Thanks to this, he observed that these brain injuries had disturbed one of the intelligences but not the others. So, Gardner stated that each intelligence have a place where is located in the brain. For instance, right hemisphere temporal lobe is the place where the musical intelligence is developed.
- The existence of idiots savants, prodigies, and other exceptional individuals: Some people present a high level of a particular intelligence but some other intelligences are not in this high level or barely exist. For instance, one individual may be excellent at math but it is hard for him/her to socialize (interpersonal intelligence).
- An identifiable core operation or set of operations: A specific type of input can activate an individual's intelligence (Gardner, 1983). For example, rhythm is one core of the musical intelligence.
- A distinctive developmental history, along with a definable set of expert «end-state» performances: Each intelligence presents its own evolutionary history, that is, its own time to emerge, its own time to reach its highest point and its own time to decline. (Armstrong, 1999).
- Susceptibility to encoding in a symbol of system: Garden (1983: 66) comments that:

Much of human representation and communication knowledge takes place via symbol systems – culturally contrived systems of meaning which capture important forms of information.

Each intelligence can be expressed via symbol systems, for instance, logical-mathematical intelligence is expressed via numbers.

2. Description of the eight intelligences.

- i. Linguistic intelligence: The ability of using words both orally (for instance politicians and orators) and in writing (journalists and writers). Armstrong (1999, 16) lists some skills found within this intelligence: «the ability of manipulating syntax or language structure, phonetics or speech sounds [...] pragmatics and practical uses of language».
- ii. Logical-mathematical intelligence: It is related to the capacity of using numbers and reasoning properly (Armstrong, 1999). People such as scientists and mathematicians present this intelligence and find attractive schemes and logical relations among others.
- iii. Spatial intelligence: People owning this type of intelligence perceive reality expressing sensibility to colour, line, shape, space and the relationship that exists among these elements (Armstrong, 1999). These skills are presented in painters, architects and guides among others. These people can create a mental image about a place that already exists or will exist (in the case of architects).
- iv. Bodily-kinaesthetic intelligence: Coordination, flexibility and strength are some of the skills presented in this intelligence. People controlling it can express ideas and feelings by using their bodies and hands. Dancers, athletes and artisans are considered to present this intelligence.
- v. Musical intelligence: It is defined as the «capacity of perceive, discriminate, transform and express musical forms» (Armstrong, 1999: 17). This intelligence is presented in composers, players of musical instruments and singers. These people are sensitive to rhythm and melody.
- vi. Intrapersonal intelligence: The capacity of knowing yourself and being able to act over your own emotions (Mora, 2002). Being aware about your feelings, motivations and having an «accurate picture of oneself» (Armstrong, 1999:18) is part of this intelligence.
- vii. Interpersonal intelligence: People showing this type of intelligence are aware of other people's emotions and intentions. Gestures, tone and facial expressions are elements that help to realize people's mood. This intelligence helps to work in group and to live with others. A psychologist is a good example of a person with a high level of this intelligence.
- viii. Naturalistic intelligence: People showing this intelligence enjoy of the nature and all its elements. They can discriminate different types of species both animals and plants. These

people can also find all the relationships that exist among elements of nature.

734

3. MIT in the classroom

MIT has important implications regarding the teaching-learning field. Intelligences are presented in everybody and students are not the exception to this rule. In fact, learners use their intelligences as means of processing the new information. For instance, a student with a high level of logical-mathematic intelligence understands and interprets information better if it is presented in the form of graphics and charts. So, if a teacher knows which intelligences predominate in their students it will be easier to aim at the learning process. Moreover, it does not mean that those intelligences absent within the classroom should not be worked.

As explained above, MIT is closely connected to several theories about learning. One of them deals with Learning Styles (Ehrman and Oxford 1990), which are defined as features that students use in order to learn. The connection that can be made between MIT and Learning Styles is proposed by Armstrong (1999:29) who states that «Students' learning styles are their intelligences put to work. That is, learning styles are the pragmatic manifestations of intelligences functioning in natural learning contexts».

Finally, it is important to clarify that MIT is a cognitive model that tries to show how people (for instance, students in a classroom) make use of their intelligences to overcome a problem or difficult situation. On the other hand, learning styles deal with not only cognition but also with behaviours such as affection. «Learning Styles and Cognitive Styles should not be interpreted as static behaviour schemes that predetermine people's doings» (Villanueva & Navarro, 1997: 50).

Pedagogical approach

Table 1 shows how the eight intelligences can be put to work within an EFL classroom. These activities are aimed to children around 8 to 10 years old with a basic level of English. In this case, the eight activities (one for each intelligence, except in the case of Spatial intelligence and Interpersonal intelligence which share the same activity) are aimed at learning vocabulary as well as acquiring some cultural knowledge from the American holiday Thanksgiving. It is advisable to follow the order in which the activities are presented; the first activity is closely connected to the other ones.

Table 1. Pedagogical approach of MIT

Intelligence	Material needed	Aims	Explanation
Linguistic Intelligence	History of Thanksgiving and Thanksgiving missing letters.	1. Introduce the history of Thanksgiving	The teacher reads the story about Thanksgiving and

	(Appendix 1 and 2).	<p>to students.</p> <p>2. Practice reading.</p> <p>3 Learn vocabulary related to this holiday.</p> <p>4. Work on the spelling of key words concerning Thanksgiving.</p>	<p>explains those difficult concepts. Then the teacher and the whole class talk about those key words that are related to Thanksgiving (crop, turkey, pumpkin pie). Finally, the teacher gives the students a serie of key words which are incomplete and some letters are missing (e.g. p _ _ _ k _ n _ i _ = pumpkin pie). The learners must fill these gaps in order to read the complete word.</p>
Logical-mathematical intelligence.	History of Thanksgiving (appendix 1) and Thanksgiving crossword (Appendix 3).	<p>1.Practice vocabulary related to Thanksgiving.</p> <p>2.Practice logical thinking.</p>	<p>After reading the story about Thanksgiving and introducing new words (key words related to this holiday), the students work on a crossword which includes the key words previously mentioned.</p>
Spatial intelligence.	Paints (red, orange, yellow, green, etc.), a white sheet of paper, colored pencils. (Appendix 4).	<p>1. Help kids to express their creativity.</p>	<p>Students paint one of their hands (all, palm and fingers) and then they support the colored hand in the white sheet of paper. The impression left looks like a turkey (figure 1). The kids use colored pencils (once the painting is dry) to decorate it as they wish.</p>
Bodily-kinaesthetic intelligence.	No material needed.	<p>1.Students work with their bodies.</p> <p>2.Practice vocabulary.</p> <p>3.Use of “verb to be” and “present simple”.</p>	<p>Students work in groups of five or six, standing in circles. One of the members of the group stands in the centre of the circle and act out a certain role related to Thanksgiving. The other partners ask him/her questions in order to find out the role. For instance, are you orange? are you big? are you a vegetable? It’s a pumpkin!</p>

Musical Intelligence. *	Thanksgiving Song - Songs For Children (Youtube) and Lyrics (appendix 5).	<p>1.Students practice a listening activiy.</p> <p>2.Identifying vocabulary related to Thanksgiving</p>	Students listen to "Thanksgiving song" twice to get use to it. They can dance or do any kind of movement they like. Then, all the class discusses about what is the song about and mention words they recognize. The teacher writes all these words on the blackboard to remember them. The class listens to the song for the third time but the students have the lyrics on paper this time. While listening to it, kids underline those words they already know. All together compare what they have found with what is written in the blackboard.
Interpersonal intelligence.	Colours, papers, scissors, glue and others school supplies considered appropriate.	<p>1.Work with other partners.</p> <p>2.Be creative.</p> <p>3.Show the understanding about what is Thanksgiving.</p> <p>4.Work with elements related to Thanksgiving.</p> <p>5.Work students' oral expression.</p>	In groups of four or five students, kids have to create a poster in which it can be seen a scene related to Thanksgiving. When it is finished, each group describes the elements presented on it to the other partners.
Naturalistic Intelligence.	Paper and pencil.	<p>1.Kids learn to differentiate animals from vegetables.</p> <p>2.Practice vocabulary.</p>	The teacher writes in the blackboard a chart. To the right we find the "animals column", in the middle the "vegetables column" and to the left the "none of the other two" column. The teacher writes those key words related to Thanksgiving and the kids have to decide in which column each word should be.
Intrapersonal	Questions about the	1.Students think about	In this activity, the

intelligence.	activities and feelings (Appendix 6).	what they have been doing. 2.Students reflect about themselves. 3.Students recognize their feelings.	teacher provides number of questions which the student have to respond. These questions are related to what the kids have been doing during the class. The teacher is able to help the students to answer the questions if necessary.
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* **Note:** This activity can also be useful to work the bodily-kinesthetic Intelligence. Kids use their bodies while dancing and moving.

VI. Discussion

After analysing the results obtained in the previous Tables, we can assert that ELT textbooks tend to include several examples of fillers among their listening activities in order to imitate real conversational situations. Besides, focusing on the materials examined, it has been proved that they fulfil the premise stated on their back covers, that is, to include listening material from realistic and dialy situations. Despite of this, the frequency of fillers and types illustrated depend on the material and the publishing selected.

New Cutting Edge Intermediate employs a larger quantity of fillers in its transcripts than *Upstream Intermediate* in both the monologue and the dialogue. Specifically, in the monologues of *Upstream Intermediate*, there is a visible absence of fillers. What is more, *New Cutting Edge Intermediate* includes a wider variety of fillers, covering and exemplifying all types of fillers, whereas *Upstream Intermediate* only uses quasi-lexical and lexical fillers in their transcripts.

VII. Final remarks

Thanks to Gardner researches (1983,93), it was shown that not all students think in the same way. Teaching contexts were organized following the idea that all learners behave and think as one entity. Nowadays it is known that students present a great variety of styles when learning and that, of course, affects the way of acquiring knowledge. As Arnold and Fonseca (2004: 130) state «human cognitive ability is pluralistic rather than unitary and that learners of any subject will make greater progress if they have the opportunity to use their areas of strength to master the necessary material.»

The eight intelligences proposed by Gardner help teachers to be aware of the great diversity that can exist in a classroom. Instructors need to take MIT into consideration when planning activities in order to release all the potential a student may have. What is more, teachers have to

present a great variety of activities that include different intelligences to help those students who do not present a high level of a particular intelligence to be able to cope with that situation. It is not only a matter of learning better through your own intelligence but also to know what to do in the presence of activities dealing with other intelligences.

Finally, it is vital to work the eight intelligences in order to involve personal development and growth in all dimensions (Arnold & Fonseca, 2004). The eight intelligences are equally important and they need to be worked with the same importance. When a teacher knows the students' preferences, it increases learners' motivation and interest about the subject being taught.

MIT and learning styles are two frames connected by "learners' way of processing information" and further reasearch should be done about the subject. Both proposals deal with learners' preferences and, at some points, both talk about the same aspects.

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IX. Appendixes

739

APPENDIX 1: Read the History about Thanksgiving Day!



History of Thanksgiving Day.

Thanksgiving Day first started in New England. It was for thanking God for the abundant harvest of crops. This is usually somewhere in late fall when the crops have been harvested.

In New England, the first Thanksgiving Day was celebrated in Plymouth in 1621 by the Pilgrims together with 91 Indians. The first winter in Massachusetts was really bad and 46 out of the original 102 Pilgrims died. The Indians helped the Pilgrims through that difficult period and without them, the Pilgrims would not have survived.

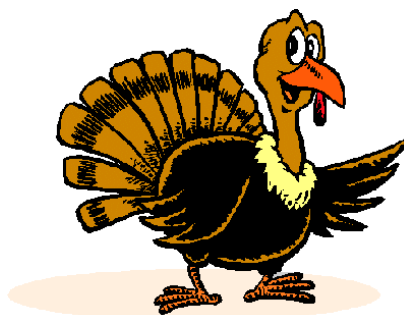


In the following Spring of 1621, Samoset of the Wampanoag Tribe and Squanto of the Patuxet tribe, taught the survivors how to plant corn, how to catch fishes and grow pumpkins, beans, peas and other crops. These two Indians also taught the Pilgrims the art of hunting. Things got better in 1621 when the corn and pumpkin harvest was bountiful. Governor William Bradford made arrangements to

celebrate and to recognise the help given to the colonists by the Indians with a feast. The feast lasted for three days. Governor William Bradford sent four men out "fowling" after ducks, geese and turkeys. Unfortunately, this celebration was not repeated for many years. In June 20, 1676, People proclaimed June 29 as a Thanksgiving Day.

Thanksgiving Day Dinner:

Traditional thanksgiving dinners include turkeys, cranberries, fish, dried fruit, clams, venison, plums and lobsters. Modern times thanksgiving dinners include the pumpkin pie.



APPENDIX 2: Missing letters: Find the missing letters and complete the word.



F _ _ l

P _ m _ _ i _

_ _ l g _ _ m _

_ o r _

_ i _

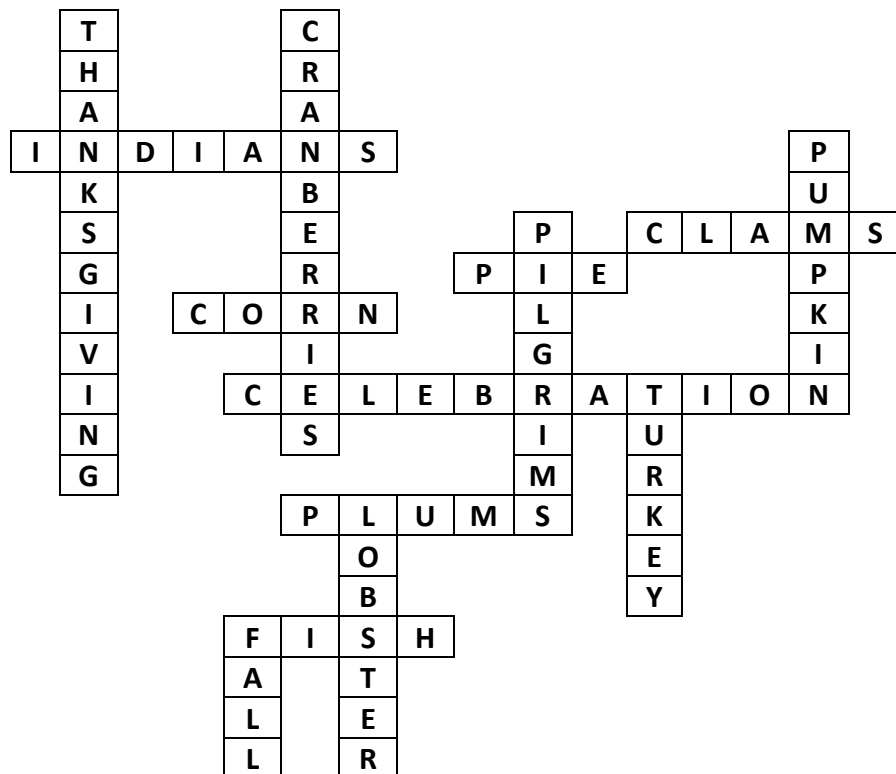
l _ d _ _ _ s

P _ a _

B _ _ n _



APPENDIX 3: Complete the Thanksgiving Crossword!



Indians
Cranberries
Corn

Celebration

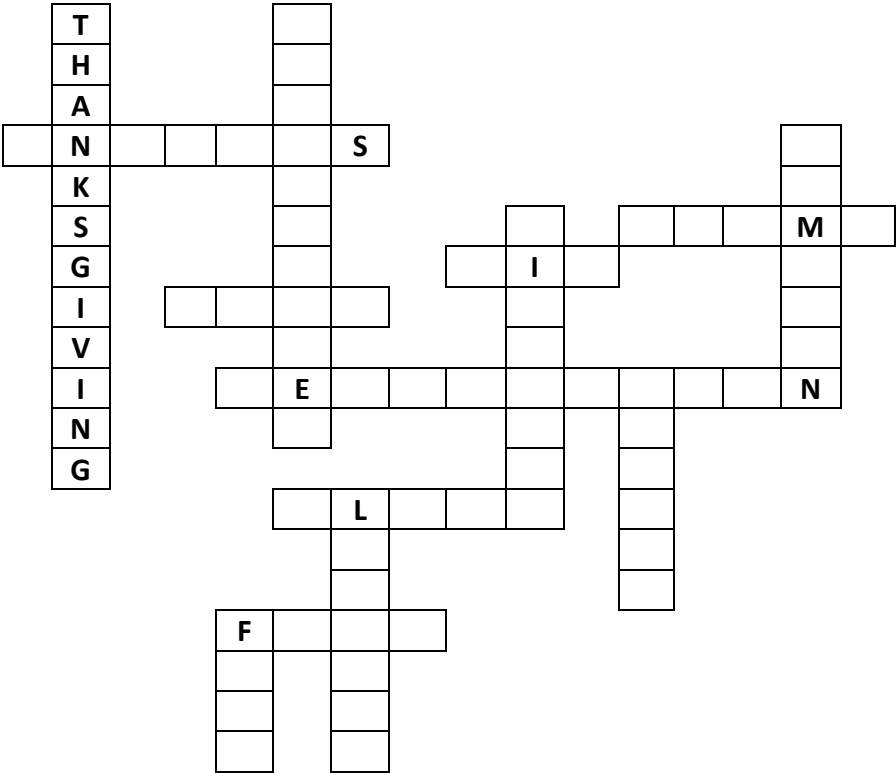
Pilgrims
Pie
Clams

Pumpkin

Turkey
Plums
Lobster

Fall

Fish



APPENDIX 4:



Figure 1. Example of painted turkey.

APPENDIX 5: Listen to this song and find words you know!

742

Thanksgiving Song - Songs For Children (Youtube) and Lyrics.

Thank-you, thank-you, thank-you
Let's all say thank-you
We will all say thank-you
On this special day
Thank-you, thank --you, thank-you
Let's all say thank-you
On Thanksgiving Day!

Many, many years ago
When pilgrims first arrived
Crops were small, this made it all
A challenge to survive
In honour of their hard work
They all gathered 'round and dined
And gave their thanks at harvest time

We celebrate this holiday
With friends and family
And thank the Lord for all our gifts
This joyful jubilee
There's turkey, stuffing, pumpkin pie
Enough for everyone
Let's eat and drink and have some fun

Written by Wendy Wiseman.

LINK: <http://www.youtube.com/watch?v=AFI5egZfDgk>

APPENDIX 6: Questions about you!

- | |
|--|
| 1. How are you feeling today? Happy, sad, bored, angry, tired. |
| 2. What is your favourite activity about Thanksgiving? |
| 3. What activity you don't like about Thanksgiving? |
| 4. What activity do you think you did well in? |
| 5. What activity do you think you didn't do well in? |
| 6. Do you remember what Thanksgiving is about? |
| 7. Can you mention any word related to Thanksgiving? |

